

EIGHTEEN NEW SPECIES OF *STIGMODERA* (CASTIARINA) (COLEOPTERA: BUPRESTIDAE)

by S. BARKER*

Summary

BARKER, S. (1987) Eighteen new species of *Stigmodera* (Castiarina) (Coleoptera: Buprestidae). *Trans. R. Soc. S. Aust.* 111(3), 133-146, 30 November, 1987.

Eighteen new species of *Stigmodera* (Castiarina) are described: *S. aglaia* sp. nov., *S. alecgemmelli* sp. nov., *S. arida* sp. nov., *S. atra* sp. nov., *S. caillaina* sp. nov., *S. chamelauci* sp. nov., *S. dugganensis* sp. nov., *S. earinu* sp. nov., *S. gardnerae* sp. nov., *S. gordonburnsi* sp. nov., *S. goudiana* sp. nov., *S. jimturneri* sp. nov., *S. kanangura* sp. nov., *S. lauta* sp. nov., *S. livida* sp. nov., *S. sundholmi* sp. nov., *S. vanderwoudeae* sp. nov., *S. viridissima* sp. nov.

KEY WORDS: Coleoptera, Buprestidae, *Stigmodera* (Castiarina), New species.

Introduction

Eighteen new species of *Stigmodera* (Castiarina) are described herein and placed in species groups. This brings the number of known species to about four hundred. Most of the new species have emerged from recent collecting, however several have been known for a long time, but confused with other species. All of them have been placed in species groups on the basis of the structure of their male genitalia and external morphology. All previously recognised species groups are listed in Barker (1986); an additional three groups are detailed here.

Materials and Methods

Male genitalia were dissected from selected specimens, cleaned of attached muscle and glued dry onto a piece of card before they were photographed and printed at the same magnification. Genitalia of known species are included for comparative purposes. The abbreviations used in the text for museum and private collections are as follows (Watt 1979): ASSA Mr A. Sundholm, Sydney, N.S.W.; BMNH British Museum (Natural History), London; EAQA Mr E. E. Adams, Edungalba, Qld; GBVA Mr G. G. Burns, Mornington, Vic.; JGAA Dr J. Gardner, Adelaide, S. Aust.; JHAQ Mrs J. Harslett, Amiens, Qld; JSBQ Mr J. Sedlacek, Brisbane, Qld; JTNA Mr J. R. Turner, Hazelbrook, N.S.W.; MHSA Mr T. M. S. Hanlon, Ryde, N.S.W.; MPWA Mr M. Powell, Attadale, W.A.; NMVA National Museum of Victoria; MMSA Macleay Museum, Sydney; QMBA Queensland Museum, Brisbane; RMBB L'Institut Royal de Sciences Naturelles de Belgique, Brussels; SAMA

South Australian Museum, Adelaide; WAMA Western Australian Museum, Perth.

Stigmodera (Castiarina) *alecgemmelli* sp. nov. FIGS 1A, 2D

Holotype: ♂, Stanthorpe, Qld, Dec. 1958, A. Gemmell, SAMA 1 21178.

Allotype: ♀, Stanthorpe, Qld, E. Sutton, SAMA 1 21179.

Paratypes: Qld: 1 ♂, same data as holotype; 1 ♂, 1 ♀, Stanthorpe, 27.xi.1926, S. M. Watson, SAMA; 1 ♀, Stanthorpe, Nov. 1925, SAMA; 1 ♂, Stanthorpe, E. Sutton, SAMA; 1 ♀, Glen Aplin, 26.xi.1941, A. Gemmell, JHAQ; 1 ♂, 2 ♀♀, Amiens, 26.xi.1984, J. Harslett, JHAQ; 1 ♂, Fletcher, E. Sutton, SAMA; 1 ♂, Stanthorpe, E. Sutton, JSBQ; 3 ♀♀, Stanthorpe, 20.xii.1981, J. Turner, JTNA; 1 ♂, Milmeran Dec. 1947/Jan. 1948, J. Macqueen, ASSA, N.S.W.; 1 ♂, Coonabarabran, 7.xi.1975, S. Barker, SAMA; 1 ♀, 4 km E Rocky Glen, 3.xi.1981, S. Barker, P. Kempster, H. Vanderwoude, SAMA; 1 ♂, 6 km SW Rocky Glen, 3.xi.1981, S. Barker, P. G. Kempster, H. Vanderwoude, SAMA; 2 ♂♂, 9 km N Coonabarabran, 5/6.xi.1983, A. Sundholm, ASSA; 1 ♂, 8 km N Coonabarabran, 8.xi.1983, A. Sundholm, ASSA; 1 ♂, 7 km N Coonabarabran, 5.xi.1982, A. Sundholm, ASSA; 1 ♂, Coonabarabran, 6.xi.1982, A. Sundholm, ASSA; 2 ♂♂, 1 ♀, 5 km N Coonabarabran, 4.xi.1983, A. Sundholm, J. Bugeja, ASSA.

Colour: Head, antennae, pronotum dull green. Scutellum blue. Elytra yellow with following black markings with blue reflections: narrow basal margin; broad pre-medial fascia not reaching margin; broad post-medial fascia reaching margin, projecting anteriorly in centre of each side of anterior margin; pre-apical mark covering apex, all

* Department of Zoology, University of Adelaide, G.P.O. Box 498, Adelaide, S. Aust. 5001.



marks confluent along suture. Ventral surface and legs dull green. Hairs silver.

Shape and sculpture: Head closely punctured, median sulcus, short muzzle. Antennae, segments: 1-3, obconic; 4, half toothed; 5-11, toothed. Pronotum closely punctured, very small basal fovea extending to apical margin as glabrous line, basal notches on each side more lateral than medial; apical margin projecting medially, basal margin almost straight; laterally parallel-sided at base, angled inwards, rounded to widest part before centre, rounded and narrowed to apex. Scutellum scutiform, glabrous, excavate. Each elytron punctate-striate, intervals convex, heavily punctured laterally and apically, smooth medially; laterally angled out from base, rounded at humeral callus, concave, rounded posteriorly then narrowed to bispinose apex; both spines small, margin rounded between, apices diverging. Ventral surface with shallow punctures, edges of abdominal segments glabrous, dense medium length hairs. *S*₇: truncate in males; rounded in females.

Size: Males, $13.0 \pm 0.24 \times 5.3 \pm 0.09$ mm (17). Females, $14.2 \pm 0.28 \times 5.8 \pm 0.13$ mm (11).

Male genitalia: (Fig. 1A). Parameres more or less parallel-sided for most of length, slightly widened, rounded apically. Median lobe blunt, sides angled away. Apophysis of basal piece medium width, angled to apex.

Remarks: Member of *S. simulata* C & G species group. Has been confused with *S. burchelli* C & G (Holotype, MNHN). Aedeagus of *S. burchelli* C & G (Fig. 1B) similar shape but longer and narrower. Apex of median lobe pointed, sides acutely angled away. Apophysis of basal piece medium width but not tapered apically. *S. burchelli* is coastal species with red margins on elytra. *S. alecgemmelli* is found inland and does not have red margins. Named after the late Mr A. Gemmell, Glen Aplin, Qld.

***Stigmodera (Castiartina) arida* sp. nov.**
FIGS 1C, 2B

Holotype: ♂, Vic., NMVA.

Allotype: ♀, Sofala, N.S.W., 26.xii.1983, A. Sundholm, SAMA 1 21180.

Paratypes: Vic.: 1 ♂, 3 ♀♀, NMVA.

Colour: Head dark blue. Antennae, segments: 1, 2, dark blue; 3-11, bronze. Pronotum dark blue medially, red laterally. Scutellum dark blue. Elytra red with following dark blue elytral markings: narrow basal margin; very broad pre-medial fascia not reaching margin, but expanded anteriorly to basal margin, enclosing basal spot on each side; very broad post-medial fascia expanded anteriorly from centre of anterior margin on each side and on suture, expanded posteriorly from centre of posterior margin on each side and on suture; mark covering apex. Ventral surface: pre-sternum variably dark blue medially, red laterally; meso- and metasternum dark blue or variably dark blue and red laterally; abdomen red. Legs: femora and tibiae blue; tarsi blue-green. Hairs silver.

Shape and sculpture: Head closely punctured, broad median sulcus, short muzzle. Antennae, segments: 1-3, obconic; 4-11, toothed. Pronotum closely punctured, basal fovea extending to apical margin as impressed line; apical margin projecting medially, basal margin barely bisinuate; laterally angled outwards from base, rounded to widest part anteriorly, rounded and narrowed to apex, dorso-ventrally flattened for one third of distance from base. Scutellum scutiform, glabrous, excavate. Each elytron punctate-striate, intervals convex; punctured more heavily laterally than medially; laterally slightly angled out from base, rounded at humeral callus, concave, rounded posteriorly then tapered, rounded to spineless apex; minute indentation from apical margin to suture without obvious spines, apices diverging slightly, apical margin rough. Ventral surface with shallow punctures, edges of abdominal segments glabrous, sparse very short hair. *S*₇: narrowly truncate in males; rounded and pointed in females.

Size: Males, 12.7×4.9 mm (2). Females 13.4×5.1 mm (4).

Male genitalia: (Fig. 1C). Parameres parallel-sided basally, rounded posteromedially, slightly widened, rounded apically. Median lobe sharp, sides acutely angled away. Apophysis of basal piece short and slender.

Remarks: A member of *S. distinguenda* Saunders species group. External morphology most closely resembles *S. millarls* Carter (Holotype male, RMBB), but male genitalia are different. In *S.*

Fig. 1. Photomicrographs of male genitalia of the following *Stigmodera (Castiartina)* species: A. *S. alecgemmelli* sp. nov., B. *S. burchelli* C & G, C. *S. arida* sp. nov., D. *S. militaris* Carter, E. *S. dugganensis* sp. nov., F. *S. chamelauci* sp. nov., G. *S. vanderwoudeae* sp. nov., H. *S. gonluburnsi* sp. nov., I. *S. klugi* C & G, J. *S. callaina* sp. nov., K. *S. goudiana* sp. nov., L. *S. livida* sp. nov., M. *S. viridissima* sp. nov., N. *S. earina* sp. nov., O. *S. sundholmi* sp. nov., P. *S. imitator* Carter, Q. *S. aglaia* sp. nov., R. *S. gentilis* Kerremans, S. *S. ultra* sp. nov., T. *S. obliqua* Kerremans, U. *S. gracilior* Carter, V. *S. garahnerae* sp. nov., W. *S. mustelamajor* Thomson, X. *S. erasma* Carter, Y. *S. jimturneri* sp. nov., Z. *kanangura* sp. nov.

militaris (Fig. 1D) parameres are wider at apex, median lobe blunt and obtusely angled away. Basal piece is not circular but protrudes in centre. Apophysis of basal piece narrow, constricted in middle and elongate. *S. militaris* is smallest species with blue and yellow markings. The name refers to the habitat and is derived from *aridus* L., dry.

***Stigmodera (Castiarina) dugganensis* sp. nov.**
FIGS 1E, 2C

Holotype: ♂, Duggan, W.A., 27.ix.1974, K. & E. Carnaby, SAMA 1 21178.

Allotype: ♀, Lake Cronin, W.A., 17.x.1981, M. Powell, WAMA.

Paratypes: W.A.: 2 ♂♂, 80 km E Hyden, 28.x.1984, M. Powell, MPWA; 1 ♂, Lake Cronin, 18.x.1981, M. Powell, MPWA, Vic.: 1 ♂, 1 ♀, Sea Lake, Nov. 1916, W. Goudie, NMVA.

Colour: Head blue. Antennae bronze-green. Pronotum blue medially, red laterally from one third of distance from base to apex, base blue. Scutellum blue. Elytra red with following dark blue markings: narrow basal margin; pre-medial fascia not reaching margin but extending anteriorly to basal margin, enclosing basal spot on each side; broad post-medial fascia; mark covering apex, marks may or may not be confluent along suture. Ventral surface: sternum dark blue; abdomen blue in centre, red at sides. Legs: femora and tibiae blue-green; tarsi green. Hairs silver.

Shape and sculpture: Head closely punctured, broad median sulcus, short muzzle. Antennae, segments: 1-3, obconic; 4-11, toothed. Pronotum closely punctured, narrow basal fovea extending to anterior margin as thin impressed line, small basal notches on each side more lateral than medial; apical margin projecting medially, basal margin bisinuate; laterally rounded from base to widest part posteromedially, rounded to apex. Scutellum scutiform, glabrous, flat. Each elytron punctate-striate, intervals convex, punctured and wrinkled; laterally parallel-sided at base then angled out, rounded at humeral callus, faintly concave, rounded posteriorly and narrowed to bispinose apex; small blunt marginal spine, minute sutural spine, margin indented between, apices diverging slightly. Ventral surface with shallow punctures, sparse medium length hairs: *S*₇ truncate in males; rounded and slightly pointed in females.

Size: Males, 12.3 × 4.5 mm (5). Females, 13.9 × 5.0 mm (2).

Male genitalia: (Fig. 1E). Parameres parallel-sided basally, widened posteromedially, more or less parallel-sided, rounded apically. Median lobe

pointed, sides acutely angled away. Apophysis of basal piece narrow and tapered apically.

Remarks: Member of the *S. distinguenda* Saunders species group on basis of pronotal markings, external morphology and male genitalia. Although distinct within its species group, could be confused with *S. rufa* Barker, a member of the *S. gibbicollis* Saunders species group, which has similar colour and pattern. Male genitalia are very different Barker (1986, Fig. 2E). The name is derived from the type locality.

***Stigmodera (Castiarina) chamelauci* sp. nov.**
FIGS 1F, 2P

Holotype: ♂, Spalding Park, Bluff Pt, Geraldton District, W.A., 5.ix.1973, N. McFarland, BMNH.

Allotype: ♀, Spalding Park, Bluff Pt, Geraldton District, W.A., 21.ix.1973, N. McFarland, BMNH.

Paratypes: W.A.: 25 ♂♂, Dongarra (sic), 6-19.ix.1935, 20-25.ix.1935, 26.ix-3.x.1935, 4-10.x.1935, 11-28.x.1935, R. E. Turner, BMNH & SAMA.

Colour: Head dark blue. Antennae, segments: 1, blue; 2-11, blue-green. Pronotum dark blue with bronze reflections. Scutellum dark blue. Elytra orange with red margin and following black markings with blue reflections: narrow basal margin; pre-medial fascia not reaching margin or represented by spot over each humeral callus and one on suture; post-medial fascia reaching margin, expanded anteriorly on suture and on anterior margin on each side more lateral than medial, expanded posteriorly on suture and on posterior margin on each side more lateral than medial; pre-apical mark also covering spines, confluent in more heavily marked specimens, post-medial fascia and apical mark confluent along suture. Ventral surface dark blue. Legs: femora and tibiae dark blue; tarsi blue-green. Hairs silver.

Shape and sculpture: Head closely punctured, broad median sulcus, short muzzle. Antennae, segments: 1-4, obconic; 5-11, toothed. Pronotum closely punctured, narrow basal fovea extending to apical margin as glabrous line, basal notches represented by glabrous area on each side more lateral than medial; apical margin straight, basal margin bisinuate; laterally rounded from base, widest posteromedially, rounded and narrowed to apex. Scutellum scutiform, glabrous, excavate. Each elytron punctate-striate, intervals convex, punctured, more so laterally than medially; laterally angled out from base, rounded at humeral callus, concave, rounded posteriorly and narrowed, rounded again to bispinose apex; sharp marginal spine, small sutural spine, margin rounded and indented

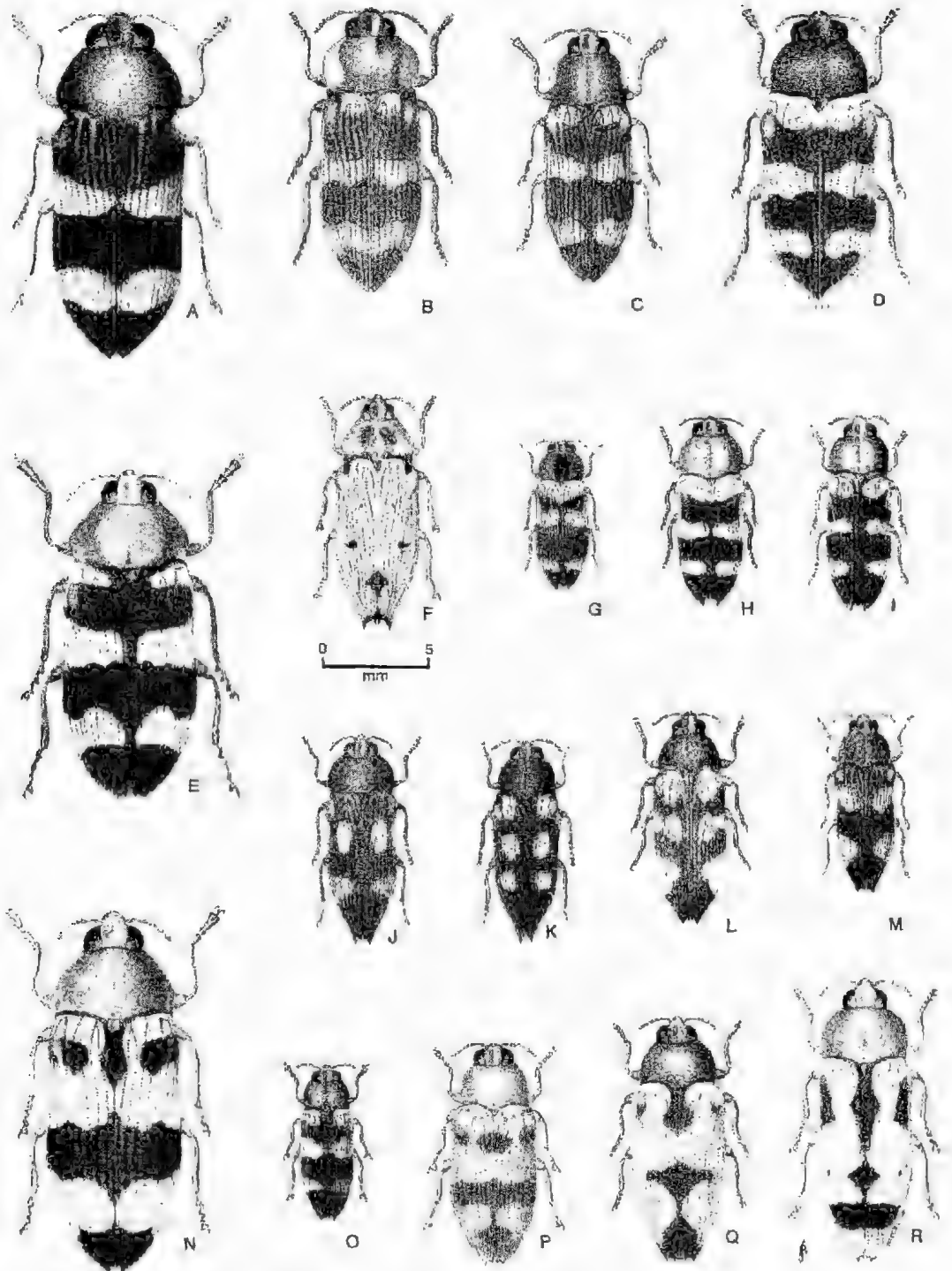


Fig. 2. A, *Stigmodera gordonburnsi* sp. nov., B. *S. arida* sp. nov., C. *S. dugganensis* sp. nov., D. *S. ulecgemelli* sp. nov., E. *S. caillaina* sp. nov., F. *S. gardnerae* sp. nov., G. *S. livida* sp. nov., H. *S. viridissima* sp. nov., I. *S. earina* sp. nov., J. *S. lauta* sp. nov., K. *S. ultra* sp. nov., L. *S. sundholmi* sp. nov., M. *S. aglaia* sp. nov., N. *S. jimturneri* sp. nov., O. *S. vanderwoudeae* sp. nov., P. *S. chamelauci* sp. nov., Q. *S. goutiana* sp. nov., R. *S. kunangara* sp. nov.

between, apices diverging, apical margin subserrate. Ventral surface with shallow punctures, edges of abdominal segments glabrous, moderately hairy, hairs medium length. S_7 truncate in males; truncate and indented medially in females. Legs, male: tarsal pads absent on legs 2 and 3 on tarsomeres 1-3, replaced by median spine.

Size: Males, $10.8 \pm 0.13 \times 4.1 \pm 0.05$ mm (26). Female, 11.9×4.5 mm (1).

Male genitalia: (Fig. 1F). Wedge-shaped with relatively narrow basal piece, apophysis and parameres.

Remarks: Member of *S. sexplagiata* Gory species group on basis of its wedge-shaped male genitalia and external morphology. Elytral colour and red margins distinguish this species from others in group. Named after *Chamelaucium uncinatum* Schau., Geraldton wax, on which adults are collected.

***Stigmodera (Castiarina) vanderwoudeae* sp. nov.**
FIGS 1G, 2O

Holotype: ♂, Lake Gilles Conservation Pk, 27 km E Kimba, S. Aust., 25.x.1982, S. Barker, P. G. Kempster, H. Vanderwoude, SAMA 1 21182.

Allotype: ♀, same data as holotype, SAMA 1 21183.

Paratypes: S. Aust. 15 ♂♂, 8 ♀♀, same data as holotype, SAMA.

Colour: Head black with blue reflections. Antennae, segments: 1, 2, blue; 3-11, blue-green. Pronotum and scutellum black with blue reflections. Elytra orange with following dark blue markings: narrow basal margin; pre-medial fascia not reaching margin, projecting slightly anteriorly on suture; broad post-medial fascia projecting anteriorly on suture at anterior margin and in centre of each side of anterior margin, projecting posteriorly on suture at posterior margin; mark covering apex, marks confluent along suture. Ventral surface and legs dark blue. Hairs silver.

Shape and sculpture: Head closely punctured, median sulcus, short muzzle. Antennae, segments: 1-4, obconic; 5-11, toothed. Pronotum closely punctured, narrow basal fovea extending to centre as glabrous line, then to apical margin as impressed line; apical margin straight, basal margin bisinuate; laterally angled inwards from base, rounded to widest part posteromedially, rounded and narrowed to apex. Scutellum scutiform, glabrous, excavate. Each elytron punctate-striate, intervals convex, punctured more heavily laterally than medially; laterally angled out from base, rounded at humeral callus, concave, rounded posteriorly and narrowed to bispinose apex; sharp marginal spine, minute

sutural spine, margin rounded and indented between, apices diverging slightly, apical margin subserrate. Ventral surface with shallow punctures, edges of abdominal segments glabrous, moderately hairy, hairs short. S_7 truncate in both sexes. Legs, male: tarsal pads absent on legs 2 and 3 on tarsomeres 1-3 each replaced by small double, median spine.

Size: Males, $7.9 \pm 0.20 \times 3.0 \pm 0.09$ mm (16). Females, $8.6 \pm 0.24 \times 3.4 \pm 0.04$ mm (9).

Male genitalia: (Fig. 1G). Wedge-shaped. Parameres parallel-sided at base, widened posteromedially, slightly rounded then abruptly rounded near apex, apical edge concave. Median lobe pointed, rounded apically. Apophysis of basal piece narrowed.

Remarks: Member of *S. sexplagiata* species group on basis of its wedge-shaped male genitalia and external morphology. Most closely resembles *S. cornishi* Barker (1983, Fig. 1R) but is smaller. Male genitalia are smaller and not as wide apically and spines on ventral surface of tarsomeres are much less prominent than in *S. cornishi*. All specimens were collected on flowers of *Eremophila scoparia* (R.Br.) F. Muell. Named after Ms H. Vanderwoude, Adelaide.

***Stigmodera (Castiarina) gordonhurnsi* sp. nov.**
FIGS 1H, 2A

Holotype: ♂, Grampians, Vic., 22.xi.1982, G. G. Burns, NMVA.

Allotype: ♀, Grampians, Vic., 19.xii.1983, G. G. Burns, NMVA.

Paratypes: Vic.: 1 ♂, same data as holotype, GBVA; 1 ♂, Inglewood, Nov. 1952, E. Smith, NMVA; 1 ♀, same data as allotype, GBVA; 1 ♂, Grampians, 23.xi.1982, G. G. Burns, SAMA; 1 ♂, Grampians, 24.xi.1982, G. G. Burns, GBVA; 1 ♀, 16 km N Benambra, 14.i.1979, P. J. Gullen, SAMA.

Colour: Head dark blue. Antennae, segments: 1, 2, blue-green; 3-11, bronze-green. Pronotum dark blue medially, blue laterally. Scutellum dark blue. Elytra red with following dark blue markings: broad basal margin, red spot at lateral margin on each side; broad post-medial fascia; mark covering apex, all marks confluent along suture. Ventral surface blue. Legs: femora blue; tibiae and tarsi blue-green. Hairs silver.

Shape and sculpture: Head closely punctured, broad median sulcus, short muzzle. Antennae, segments: 1-3, obconic; 4-11, toothed. Pronotum closely punctured, basal fovea extending to apical margin as glabrous line, basal notches on each side more lateral than medial; apical margin projecting medially, basal margin almost straight; laterally

parallel-sided at base, angled outwards, rounded to widest part posteromedially, rounded and narrowed to apex. Scutellum scutiform, glabrous, flat. Each elytron punctate-striate, intervals convex, punctured and wrinkled; laterally angled out from base, rounded at humeral callus, concave, rounded posteriorly to bispinose apex; both spines small and blunt, margin rounded and indented between, apices diverging slightly, apical margin subserrate. Ventral surface with shallow punctures, edges of abdominal segments glabrous, sparse short hairs. S_7 : truncate in male; rounded in females.

Size: Males, 16.2 × 6.5 mm (5). Females, 17.3 × 7.3 mm (3).

Male genitalia: (Fig. 1H). Parameres parallel-sided basally, rounded posteromedially, widened, rounded apically. Median lobe pointed, sides acutely angled away then rounded and obtusely angled away. Apophysis of basal piece medium width.

Remarks: Member of *S. klugi* species group. In closest species *S. klugi* C & G (Fig. 1I), aedeagus is shorter, apices of parameres are more abruptly rounded, median lobe blunter. Only red and blue species in group, *S. klugi* is yellow and blue and *S. rubicunda* Carter is red and purple. Named after Mr G. G. Burns, Mornington.

Stigmodera (Castiarina) caillaina sp. nov.
FIGS 1J, 2E

Holotype: ♂, Vic., Blackburn, SAMA 1 21184.

Allotype: ♀, Hornsby, N.S.W., Schrader, SAMA 1 21185.

Paratype: 1 ♂, no data, RMBB.

Colour: Head and antennae blue-green. Pronotum green medially, blue laterally. Scutellum blue. Elytra yellow with following black markings with blue reflections: narrow basal margin; pre-medial fascia reaching margin with projection from posterior margin; post-medial fascia reaching margin, concave posteriorly; mark covering apex, all marks confluent along suture. Ventral surface dark blue. Legs blue-green. Hairs silver.

Shape and sculpture: Head closely punctured, median sulcus, short muzzle. Antennae, segments: 1-3, obconic; 4-11 toothed. Pronotum closely punctured, small basal fovea extending to centre as glabrous line; apical margin slightly projecting medially, basal margin barely bisinuate; laterally angled outwards from base, rounded to widest part posteromedially, tapered to apex, dorso-ventrally flattened on basal half, shallow fovea at each basal angle. Scutellum scutiform, glabrous, flat. Each elytron punctate-striate, intervals convex, punctured; laterally angled out from base, rounded at humeral

callus, concave, rounded posteriorly and narrowed to bispinose apex; small marginal spine, small sutural spine, margin rounded and indented between, apices diverging, apical margin subserrate. Ventral surface with shallow punctures, edges of abdominal segments glabrous, moderately hairy, hairs medium length. S_7 : truncate in both sexes.

Size: Males, 14.9 × 6.2 mm (2). Female: 19.7 × 8.5 mm (1).

Male genitalia: (Fig. 1J). Parameres parallel-sided basally, widened posteromedially, parallel-sided anteromedially, rounded apically. Median lobe pointed, sides acutely rounded away. Apophysis of basal piece narrowed.

Remarks: Belongs in *S. cupricollis* Saunders species group. Most resembles *S. deyrollei* Thomson but male genitalia are smaller, apically wider and apophysis more constricted than in *S. deyrollei* Barker (1986, Fig. 1M). *S. caillaina* is smaller than *S. deyrollei*, pronotum of *S. deyrollei* is green and underside green not dark blue as in *S. caillaina*. Name refers to colour of pronotum and is derived from *caillainus* L., blue-green.

Stigmodera (Castiarina) goudiana sp. nov.
FIGS 1K, 2Q

Holotype: ♂, Sea Lake, Vic., Nov. 1916, W. Goudie, NMVA.

Allotype: ♀, same data as holotype, SAMA 1 21186.

Paratypes: N.S.W.: 1 ♂, Roto, 30.x.1981, J. R. Turner, ASSA; 2 ♂♂, 1 km S Matakana, 30.xi.1984, A. Sundholm, J. Bugge, ASSA, SAMA; 1 ♀, Roto-Matakana, 28.xi.1981, A. Sundholm, ASSA.

Colour: Head black with bronze and blue reflections, muzzle blue. Antennae and pronotum black with bronze and blue reflections. Scutellum black. Elytra yellow with following black markings: narrow basal margin; incomplete pre-medial fascia, represented by mark on each humeral callus and one on suture confluent with basal margin around scutellum; incomplete post-medial fascia represented by mark on each side and one on suture, confluent in some specimens; mark covering apex and spines, last two marks may or may not be confluent along suture. Ventral surface black with bronze and blue reflections. Legs, femora and tibia blue; tarsi blue-green. Hairs silver.

Shape and sculpture: Head closely punctured, median sulcus, short muzzle. Antennae, segments: 1-3, obconic; 4-11, toothed. Pronotum shallowly punctured, narrow basal fovea, basal notches on each side more lateral than medial; apical margin straight, basal margin bisinuate; laterally rounded

from base, widest posteromedially, rounded and narrowed to apex. Scutellum scutiform, glabrous, excavate. Each elytron punctate-striate, intervals convex, punctured, lateral margin flattened; laterally angled out from base, rounded at humeral callus, concave, rounded posteriorly and narrowed to bispinose apex; both spines sharp, margin rounded between, apices diverging. Ventral surface with shallow punctures, edges of abdominal segments glabrous, sparse short hairs. S_7 : truncate in both sexes.

Size: Males, 10.8×4.3 mm (4). Females, 11.8×5.2 mm (2).

Male genitalia: (Fig. 1K). Short. Parameres widened basally, rounded posteromedially then widened, rounded apically. Median lobe pointed, sides acutely angled away. Apophysis of basal piece narrow.

Remarks: Member of *S. delectabilis* Hope species group, closest to *S. dessarti* Barker (1986, Fig. 3O) from W.A. Parameres in that species are narrower and its has red elytra. Named after late Mr W. Goudie, Sea Lake, Vic.

Stigmodera (Castlarina) livida sp. nov.

FIGS 11, 2G

Holotype: ♂, Eukey, Qld, Jan. 1934, F. W. Wilson, NMVA.

Allotype: ♀, MacPherson State Forest, 27 km NW Central Mangrove, Qld, 17.xii.1979, J. & D. Gardner, SAMA 1 21187.

Paratypes: Qld: 1 ♂, 1 ♀, Eukey, 29.x.1975, S. Barker, SAMA; 3 ♀♀, Glen Aplin, 28.x.1975, S. Barker, SAMA; 2 ♂♂, same data as holotype, NMVA; 1 ♂, 1 ♀, Mt Tambourine, 26.xii.1937, C. Oke, NMVA; 1 ♀, Durack via Brisbane, 19.x.1978, G. G. Burns, GBVA; 1 ♀, Amiens, 9.xii.1979, T. M. S. Hanton, MHSA; 1 ♀, Stanthorpe, Dec. 1981, A. Sundholm, ASSA. N.S.W.: 1 ♂, Grafton, SAMA; 4 ♂♂, 2 ♀♀, Armidale, Dec. 1953, C. G. L. Gooding, SAMA; 5 ♂♂, 2 ♀♀, Glenbrook, T. J. Hawkeswood, SAMA; 5 ♂♂, 2 ♀♀, 9.6 km SE Cessnock, 14.xii.1979, J. & D. Gardner, JGAA; 14 ♂♂, 6 ♀♀, Appin, Nov., C. Deuquet, RMBB; 8 ♂♂, 4 ♀♀, Glenreagh, Oct. 1922, C. Deuquet, RMBB; 1 ♂, 4 ♀♀, Mendurran, Nov. 1933, C. Deuquet, RMBB; 1 ♀, 73 km ENE Windsor, 18.xi.1984, T. M. S. Hanton, MHSA; 7 ♂♂, 3 ♀♀, Dunnedoo, 1.xii.1985, A. Sundholm, ASSA; 1 ♂, Sandy Pt, Sydney, 1.xii.1980, A. Sundholm, ASSA; 1 ♂, Hassans Walks, Lithgow, 28.xi.1982, J. R. Turner, ASSA; 1 ♀, Hill End, 24.xi.1983, J. R. Turner, JTNA; 1 ♀, Dangar Falls, 14.xii.1983, J. R. Turner, JTNA; 1 ♂, 1 ♀, Fitzroy Falls, Jan. 1941, C. Deuquet, MMSA, Vic.: 2 ♂♂, Rushworth, 7.xi.1976, G. G.

Burns, GBVA; 1 ♂, 1 ♀, Inglewood, 9.xi.1977, G. G. Burns, GBVA.

Colour: Head and antennae blue. Pronotum variably black medially, blue laterally. Scutellum black. Elytra yellow with following black markings with blue reflections: narrow basal margin; pre-medial fascia not reaching suture but expanded anteriorly over humeral callus and posteriorly reaching lateral margin in some specimens, not expanded posteriorly in others; very broad post-medial fascia; mark covering apex and spines, last three marks confluent down suture. Ventral surface and legs blue. Hairs silver.

Shape and sculpture: Head closely punctured, shallow median sulcus, very short muzzle. Antennae, segments: 1–4, obconic; 5–11, toothed. Pronotum closely punctured, narrow basal fovea extending to apical margin as glabrous line; apical margin straight, basal margin bisinuate; laterally parallel-sided at base, angled outwards and rounded to widest part anteromedially, rounded and narrowed apically. Scutellum scutiform, glabrous, flat. Each elytron punctate-striate, intervals flat medially, convex elsewhere, smooth; laterally angled out from base, rounded at humeral callus, concave, rounded posteriorly then narrowed, rounded to bispinose apex; small sharp marginal spine, very small sutural spine, margin rounded and indented between, apices diverging slightly. Ventral surface with shallow punctures, edges of abdominal segments glabrous, sparse short hair. S_7 : truncate in males; rounded in females. Legs, male: tarsal pads missing on all legs from tarsomeres 1 and 2, each replaced by single median spine.

Size: Males, $7.5 \pm 0.08 \times 2.8 \pm 0.03$ mm (57). Females, $8.1 \pm 0.10 \times 3.0 \pm 0.04$ mm (36).

Male genitalia: (Fig. 1L). Parameres widened basally, notched anteromedially; parallel-sided, rounded apically. Median lobe pointed medially, sides angled away obtusely. Basal piece medium width.

Remarks: Member of *S. flavopicta* (Boisduval) species group. Most like *S. bicolor* C & G from S. Aust., figured under its synonym *S. aliciae* Barker (1980, Figs 2E, 3E). Apophysis of basal piece is wider than in *S. bicolor* and median lobe sharper. Also *S. bicolor* has unicolorous pronotum. Often misidentified in museum collections as *S. flavovaria* Saunders (replacement name for *S. flavopicta* C & G, primary homonym of *S. flavopicta* (Boisduval)). Original description and illustration indicate that *S. flavovaria* Saunders is known green morph of *S. flavopicta* (Boisduval). Name refers to bicolourous pronotum and is derived from *livida* L., black and blue.

Stigmodera (Castiarina) viridissluna sp. nov.
FIGS 1M, 2H

Holotype: ♂, Dunmore State Forest, Qld, 2.I.1985, M. Powell, SAMA 1 21188.

Allotype: ♀, same data as holotype, SAMA 1 21189.

Paratype: Qld: 1 ♂, same data as holotype, MHSA.

Colour: Head, antennae, pronotum and scutellum green. Elytra yellow with following black markings: narrow basal margin; pre-medial fascia not reaching margin, expanded anteriorly to humeral callus; post-medial fascia reaching margin; mark covering apex and spines, last three marks confluent along suture. Ventral surface and legs green. Hairs silver.

Shape and sculpture: Head closely punctured, shallow median sulcus, very short muzzle. Antennae compressed, segments: 1-4, obconic; 5-11, toothed. Pronotum closely punctured, narrow basal fovea extending to apical margin as impressed line, basal notches on each side more lateral than medial; apical margin straight, basal margin bisinuate; laterally angled outwards from base, rounded at widest part anteromedially, rounded and narrowed apically. Scutellum scutiform, glabrous, excavate. Each elytron punctate-striate, intervals flat medially, convex elsewhere, 3rd and 5th raised at apex, 10th raised for most of its length; laterally angled out from base, rounded at humeral callus (widest part), concave; rounded posteriorly and narrowed to bispinose apex; small blunt marginal spine, minute sutural spine, margin indented between, apices diverging. Ventral surface with shallow punctures, edges of abdominal segments glabrous, moderately hairy, hairs medium length. S_7 : truncate in males; truncate and indented medially in females.

Size: Males, 8.8×3.4 mm (2). Female, 8.9×3.5 mm (1).

Male genitalia: (Fig. 1M). Parameres parallel-sided basally, rounded posteromedially, parallel-sided anteromedially, faintly notched, rounded apically. Median lobe pointed, sides acutely angled away. Apophysis of basal piece wide.

Remarks: Member of *S. cruentata* (Kirby) species group. Because of its colour, pattern, shape of pronotum and raised intervals on elytra this species is distinct within *S. cruentata* species group. Name refers to colour of head and body and is derived from *viridis* L., green.

Stigmodera (Castiarina) carina sp. nov.
FIGS 1N, 2I

Holotype: ♂, 13 km N Israelite Bay, W.A., 24.x.1980, S. Barker, P. G. Kempster, WAMA.

Allotype: ♀, same data as holotype, WAMA.

Paratypes: W.A.: 9 ♂♂, 3 ♀♀, same data as holotype, WAMA & SAMA.

Colour: Head, antennae, pronotum and scutellum green or blue-green. Elytra orange with following black markings with blue reflections: narrow basal margin; broad pre-medial fascia, not reaching margin but expanded anteriorly to humeral callus and posteriorly reaching lateral margin; broad post-medial fascia reaching margin; apical mark, all marks confluent along suture. Ventral surface and legs green or blue-green. Hairs silver.

Shape and sculpture: Head closely punctured, shallow median sulcus; short muzzle. Antennae, segments: 1-4, obconic; 5-11, toothed. Pronotum closely punctured, narrow basal fovea extending to near apical margin as impressed line; apical margin straight, basal margin bisinuate; laterally parallel-sided at base, rounded to widest medially, rounded and narrowed to apex. Scutellum scutiform, glabrous, excavate. Each elytron punctate-striate, intervals convex, punctured; laterally angled out from base, rounded at humeral callus, concave, rounded posteriorly and narrowed to bispinose apex; both spines small, margin rounded and indented between, apices diverging slightly. Ventral surface with shallow punctures, edges of abdominal segments glabrous, sparse short hair, S_7 : truncate in both sexes.

Size: Males, $9.3 \pm 0.25 \times 3.1 \pm 0.09$ mm (10). Females, $9.7 \pm 0.28 \times 3.3 \pm 0.08$ mm (4).

Male genitalia: (Fig. 1N). Parameres parallel-sided basally, rounded posteromedially and slightly widened, faintly indented, rounded apically. Median lobe pointed, sides acutely angled away. Apophysis of basal piece median width.

Remarks: Member of *S. cruentata* (Kirby) species group. Must resembles *S. montigena* Oke which has blunter median lobe and broader parameres (Barker 1983, fig. 1W). *S. montigena* has bicolorous pronotum and occurs in Australian Alps. Name refers to colour of head and body and is derived from *earinus* L., green.

Stigmodera (Castiarina) sundholmi sp. nov.
FIGS 1O, 2L

Holotype: ♂, 4 km W Paluma, Qld, 5.i.1986, E. E. & E. W. J. Adams, SAMA 1 21190.

Allotype: ♀, 4 km W Paluma, Qld, 7.i.1986, E. E. & E. W. J. Adams, SAMA 1 21191.

Paratypes: Qld: 3 ♂♂, 2 ♀♀, 4 km W Paluma, 4.i.1986, A. Sundholm, ASSA; 10 ♂♂, 5/6/7.i.1986, Paluma, E. E. & E. W. J. Adams, FICA; 14 ♂♂, 5 ♀♀, 4 km W Paluma, 6/7/8/10.i.1986, J. Bugeja & A. Sundholm, ASSA.

Colour: Head black with blue-green reflections. Antennae, segments: 1, 2, blue-green; 3-11, bronze. Pronotum black with blue-green reflections. Scutellum black with blue reflections. Elytra yellow with following black markings: narrow basal margin; pre-medial fascia reaching margin, expanded anteriorly from anterior margin over humeral callus, enclosing elongate yellow basal mark and variably an elongate yellow mark on margin at humeral callus; post-medial fascia reaching margin and expanded anteriorly from anterior margin, in some specimens fascia confluent enclosing yellow mark in middle of elytra and one on lateral margin; mark covering apex and spines with large mark between it and post-medial fascia, yellow closest to suture, red from centre to margin, all marks broadly confluent along suture. Ventral surface green with blue reflections. Legs: femora and tibiae blue; tarsi blue-green. Hairs silver.

Shape and sculpture: Head closely punctured, median sulcus, short muzzle. Antennae, segments: 1-3, obconic; 4 half toothed; 5-11, toothed. Pronotum closely punctured, basal fovea extending to apical margin as impressed line; apical margin straight, basal margin bisinuate; laterally widest at base, rounded and narrowed to apex, elongate shallow fovea at each angle. Scutellum cordiform, punctured, excavate. Each elytron punctate-striate, scutellary, 3rd at anterior part, 5th and 7th intervals slightly raised and smooth, rest flat and heavily punctured, lateral margin flattened; laterally angled out from base, rounded at humeral callus, concave, rounded posteriorly and narrowed to bispinose apex; small sharp marginal spine, minute sutural spine, margin rounded and indented between, apices diverging slightly. Ventral surface with shallow punctures, edges of abdominal segments glabrous, moderately hairy, hairs short. S_7 : truncate in males; truncate and indented medially in females.

Size: Males, $9.5 \pm 0.10 \times 3.6 \pm 0.04$ mm (28). Females, $10.1 \pm 0.20 \times 3.8 \pm 0.09$ mm (8).

Male genitalia: (Fig. 10). Parameres parallel-sided basally, widened posteromedially, rounded apically. Median lobe blunt, sides obtusely angled away. Apophysis of basal piece broad.

Remarks: Member of *S. bella* Saunders species group (listed under next species). Although this species resembles *S. gentilis* Kerremans, genitalia are most like those of *S. imitator* Carter (Fig. 1P), which, although broad apically are not spoon-shaped. Elytral colour resembles *S. gentilis* but upper surface of *S. gentilis* is heavily punctured, while that of *S. sundholmi* is glabrous and elytral patterns are quite different. Also *S. gentilis* is much smaller species than *S. sundholmi*. Named after Mr A. Sundholm, Sydney.

Stigmmodera (Custiarina) aglaia sp. nov.
FIGS 1Q, 2M

Holotype: ♂, 4 km W Paluma, Qld, 4.i.1986, A. Sundholm, SAMA I 21200.

Allotype: ♀, same data as holotype, SAMA I 21201.

Colour: Head black, muzzle blue. Antennae green. Pronotum and scutellum black with bronze reflections. Elytra yellow with following black markings: broad basal margin; broad post-medial fascia angled anteriorly but reaching margin; apical mark, all marks broadly confluent along suture enclosing a pre-medial yellow mark on each side reaching margin, large red pre-apical mark along each margin, merging into yellow closest to suture. Ventral surface green with gold reflections. Legs: femora and tibiae blue; tarsi blue-green. Hairs silver.

Shape and sculpture: Head closely punctured, median sulcus, short muzzle. Antennae, segments 1-4, obconic; 5-11, toothed. Pronotum closely punctured, basal fovea extending to apical margin as impressed line; apical margin projecting medially, basal margin bisinuate; laterally parallel-sided at base, rounded posteromedially and narrowed to apex, round fovea on each side more basal than medial, shallow fovea at each basal angle. Scutellum scutiform, glabrous, excavate. Each elytron punctate-striate, intervals convex, punctured lightly from suture to 6th, punctured heavily from 7th interval to margin; laterally angled out from base, rounded at humeral callus, concave, rounded posteriorly and narrowed to bispinose apex; sharp marginal spine, small sutural spine, margin rounded and indented between, apices diverging. Ventral surface with shallow punctures, edges of abdominal segments glabrous, moderately hairy, hairs short. S_7 : truncate in both sexes.

Size: Male, 3.0×8.5 mm (1).

Male genitalia: (Fig. 1Q). Parameres widened basally, rounded and narrowed apically. Median lobe sharp, sides angled away. Apophysis of basal piece moderately wide.

Remarks: Belongs in *S. bella* Saunders species group comprising *S. bella* Saunders, *S. aglaia* sp. nov., *S. doddi* Carter, *S. gentilis* Kerremans, *S. imitator* Carter, *S. kerremansi* Blackburn, *S. kershawi* Carter, *S. marginata* Barker, *S. sundholmi* sp. nov. Closest to *S. gentilis* Kerremans (Fig. 1R) which has parameres more or less parallel-sided on apical half, sides of median lobe acutely angled away. *S. gentilis* has four yellow spots on each elytron while *S. aglaia* has two. Only female specimen available is headless. Name derived from *aglaos* Gr., beautiful.

Stigmodera (Castiarina) atra sp. nov.

FIGS 1S, 2K

Holotype: ♂, 4 km W Paluma, Qld, 6.i.1986, A. Sundholm, SAMA I 21192.

Allotype: ♀, 4 km W Paluma, Qld, 5.i.1986, E. E. Adams, SAMA I 21193.

Paratypes: Qld: 1 ♂, 1 ♀, 4 km W Paluma, 4.i.1986, A. Sundholm, ASSA; 1 ♂, same data as allotype, EAQA.

Colour: Head black with blue reflections. Antennae, segments: 1, blue; 2-11, bronze-green. Pronotum and scutellum black with bronze-green and blue reflections. Elytra yellow with following black markings: basal margin; pre-medial fascia; post-medial fascia; apical mark, all confluent and reaching margin enclosing eight yellow spots, three in middle of each elytron and one on lateral margin at each humeral callus. Ventral surface bronze green. Legs blue. Hairs silver.

Shape and sculpture: Head closely punctured, median sulcus, medium length muzzle. Antennae, segments: 1-3, obconic; 4-11, toothed. Pronotum closely punctured, basal fovea extending to apical margin as impressed line, basal notches represented by glabrous area on each side more lateral than medial; apical margin with slight medial projection, basal margin bisinuate; laterally parallel-sided at base, rounded to widest posteromedially, rounded and narrowed to apex. Scutellum cordiform, glabrous, excavate. Each elytron punctate-striate, intervals convex, glabrous, 3rd, 5th and 7th faintly raised at apex; laterally angled out from base, rounded at humeral callus, concave, rounded posteriorly and narrowed to bispinose apex; attenuated marginal spine, minute sutural spine, margin indented between, apices diverging. Ventral surface with shallow punctures, edges of abdominal segments glabrous, moderately hairy, hairs short. S₇: truncate both sexes.

Size: Males, 9.4 × 3.3 mm (3). Females, 11.1 × 3.8 mm (2).

Male genitalia: (Fig. 1S). Sinuous in lateral profile, apex curved upwards. Parameres parallel-sided basally, rounded medially, straightened, widened, rounded apically. Median lobe pointed, sides angled away. Apophysis of basal piece moderately wide.

Remarks: Second member of *S. obliqua* species group. In *S. obliqua* Kerremans (Fig. 1T), parameres are slightly widened basally, rounded at middle then slightly narrowed, rounded to apex. Median lobe blunt, sides angled away. Apophysis of basal piece broad. The two species are easily distinguished as *S. obliqua* has green head, pronotum and under-surface and has yellow, black and red markings on

the elytra. *S. atra* could be confused with *S. octosignata* Carter which has similar markings. That species has: antennal segments 1-4, obconic; bispinose elytral apices; marginal spine not attenuated to the same degree. Name refers to predominant colour and is derived from *atra* L., black.

Stigmodera (Castiarina) laeta sp. nov.

FIG. 2J

Holotype: ♀, 4 km W Paluma, Qld, 4.i.1986, A. Sundholm, SAMA I 21194.

Paratype: ♀, same data as holotype, ASSA.

Colour: Head black with blue muzzle. Antennae, segments: 1, blue; 2-11, bronze-green. Pronotum and scutellum black. Elytra yellow with confluent black markings enclosing an elongate pre-medial yellow mark on each elytron and yellow mark at each humeral callus; red post-medial mark broader on margin, not reaching suture. Ventral surface bronze-green. Legs blue. Hairs silver.

Shape and sculpture: Head closely punctured, glabrous, median sulcus, medium length muzzle. Antennae, segments: 1-4, obconic; 5-11, toothed. Pronotum shallowly punctured, glabrous, basal fovea extending to near apical margin as glabrous line; apical margin with slight medial projection, basal margin bisinuate; laterally parallel-sided at base, rounded to widest part posteromedially, rounded and narrowed to apex. Scutellum cordiform, glabrous, excavate. Each elytron punctate-striate, intervals flat medially, convex at base and apex, glabrous; laterally angled out from base, rounded at humeral callus, concave, rounded posteriorly, tapered to bispinose apex; marginal spine larger than minute sutural spine, margin rounded and indented between, apices diverging slightly. Ventral surface with shallow punctures, edges of abdominal segments glabrous, sparse short hairs. S₇: truncate and indented medially in females.

Size: Females, 10.3 × 3.8 mm (2).

Male genitalia: Unknown in this species. Male genitalia of *S. gracillior* Carter are illustrated (Fig. 1U) as only species in group for which males are available. Parameres are curved upwards, spoon-like apically. Parallel-sided basally, widened, rounded apically. Median lobe pointed, sides angled away. Apophysis of basal piece medium width.

Remarks: Fourth member of *S. gracillior* species group on basis of external morphology. Easily distinguished from other members of group by elytral colour. *S. gracillior* is red and black, *S. sulfurea* Deuquet is yellow and black and *S. octosignata* Carter is black with yellow spots. Name is derived from *laeta* L., splendid.

Stigmodera (Castiarina) gardnerae sp. nov.
FIGS IV, 2F

Holotype: ♂, between Black Hill and Swan Reach, S. Aust., 6.xii.1984, S. Barker, H. Vanderwoude, SAMA 1 21195.

Allotype: ♀, between Black Hill and Swan Reach, S. Aust., 9.xii.1984, J. & D. Gardner, SAMA 1 21196.

Paratypes: W.A.: 1 ♂, 1 ♀, Afghan Rock, Balladonia, 1.iii.1975, S. Barker, SAMA; 2 ♂♂, Pindar, 21.i.1955, S. Barker, SAMA; 2 ♂♂, Borden, 27.ii.1956, J. A. L. Watson, SAMA; 1 ♂, Beverly, W. DuBoulay, SAMA; 2 ♂♂, 1 ♀, Bejuording, 29.xii.1951, R. P. McMillan, SAMA; 1 ♂, Piawanning, 22.i.1950, R. P. McMillan, SAMA; 2 ♂♂, Eucla, 6.iii.1979, T. J. Hawkeswood, SAMA; 3 ♂♂, Cranbrook, 4.ii.1954, A. M. Douglas, WAMA; 1 ♂, Yellowdine, 21.i.1962, L. McKenna, A. M. Douglas, WAMA; 1 ♀, Lake Grace, 8/12.xii.1969, K. & E. Carnaby, WAMA; 3 ♂♂, Fitzgerald Riv. N.P., 8/12.ii.1984, 23.ii.1985, R. P. McMillan, WAMA; 3 ♂♂, Yellowdine, 14.i.1979, 28.i.1979, T. M. S. Hanlon, WAMA; 3 ♂♂, 5 km S Mt Holland, 27.i.1979, T. M. S. Hanlon, WAMA; 1 ♂, Dedari, 20.i.1982, R. Hanisch, T. F. Houston, WAMA; 1 ♂, Forrestfield, 10.ii.1979, T. M. S. Hanlon, WAMA; 1 ♂, 5 km N Galena, 20.xii.1979, M. Powell, WAMA; 2 ♂♂, 1 ♀, Dedari, WAMA; 1 ♀, Cunderdin, Dec./Jan. 1919, WAMA; 1 ♂, Piawanning, WAMA; 1 ♂, Lake Grace, WAMA. S. Aust.: 1 ♂, 1 ♀, Mundoura N.P., 31.xii.1969, S. Barker, SAMA; 2 ♂♂, McDonald-Ferries N.P., 7.i.1970, 16.i.1980, S. Barker, SAMA; 3 ♂♂, same data as Holotype, JGAA; 1 ♀, between Black Hill and Swan Reach, 2.xii.1984, J. & D. Gardner, S. Barker, JGAA; 1 ♀, Lyndoch, SAMA; 3 ♂♂, 1 ♀, S. Aust., SAMA; 1 ♂, no data, White coll., SAMA, Vic.: 1 ♂, Birchip, 10.i.1902, SAMA; 2 ♂♂, Mallee district, E. T. Smith, NMVA; 1 ♂, Merrinec, Jan. 1937, F. E. Wilson, NMVA; 1 ♂, Gypsum, Nov. 1926, C. Oke, NMVA; 1 ♂, Inglewood, 1.i.1928, C. Oke, NMVA; 2 ♂♂, Hattah, 25.xi.1950, J. Plant, NMVA; 1 ♂, Sea Lake, 12.i.1916, Goudie, NMVA; 1 ♂, 1 ♀, Inglewood, J. Dixon, NMVA; 1 ♂, 1 ♀, Mallee district, French coll., NMVA; 2 ♂♂, 2 ♀♀, Little Desert, K. Hateley, GBVA; ♀, Glenlee via Kiata, 8.ii.1978, G. G. Burns, GBVA; 1 ♀, 30.5 km NW Yanac, 15.ii.1986, G. G. Burns, GBVA; 1 ♂, Benetook, 25.xi.1957, A. L. Brown, NMVA.

Colour: Head blue. Antennae, segments: 1, 2, blue; 3-11, bronze. Pronotum variably divided medial blue mark, testaceous laterally, scutellum blue. Elytra yellow with following blue markings: narrow basal margin; elongate mark over humeral callus

meeting basal margin; small pre-medial spot on each side closer to suture than margin; elongate post-medial mark from margin to middle of each elytron or reduced to a medial spot; diamond-shaped pre-apical mark on suture may or may not reach apex, reduced to small spot in some specimens; mark covering apex and spines, apical margin red. Ventral surface testaceous. Legs: femora and tibiae blue; tarsi bronze-green. Hairs silver.

Shape and sculpture: Head closely punctured, broad median sulcus. Antennae, segments: 1-4, obconic; 5-11, toothed. Pronotum closely punctured, basal fovea extending to centre as impressed line; apical margin straight, basal margin bisinuate; laterally parallel-sided at base, angled outwards then rounded at widest part $\frac{1}{4}$ distance from base, tapered to apex. Scutellum scutiform, glabrous, excavate. Each elytron punctate-striate, intervals convex and punctured, the inner intervals shallowly the outer intervals deeply; laterally angled out from base, rounded at humeral callus, concave, rounded posteriorly; tapered to bispinose apex; very large marginal spines, small, sharp sutural spines; margin rounded and indented between, apices diverging, margin subserrate from centre to apex. Ventral surface with shallow punctures, edges of abdominal segments glabrous, hairy, hairs short, S₇ truncate in both sexes. Legs, male: tarsal pads absent on legs 2 and 3 on tarsal segments 1-3 replaced by median spine.

Size: Males, $10.1 \pm 0.10 \times 3.7 \pm 0.05$ mm (54). Females, $10.7 \pm 0.21 \times 4.0 \pm 0.09$ mm (17).

Male genitalia: (Fig. IV). Parameres gradually widened, medially parallel-sided for short distance then gradually rounded, abruptly rounded apically. Median lobe pointed, sides angled away. Apophysis of basal piece narrowed.

Remarks: Third member of *S. mustelamajor* Thomson (Holotype male, Australia, MNHN) species group. *S. mustelamajor* occurs in eastern Australia in moderately high rainfall areas. Lateral surfaces of pronotum and ventral surface red, elytral markings are similar to *S. gardnerae* but much heavier and it is much broader than *S. gardnerae*. *S. erasma* Carter (Holotype male, Gippsland, NMVA) was synonymised with *S. mustelamajor* by Barker (1979). It has heavy black markings with elytral villae and occurs in sub-alpine eastern Australia. *S. gardnerae* occurs in mallee habitat and has lighter elytral markings than other two. Genitalia of all three are illustrated (Figs. IV, 1W, 1X). I consider all three valid species on basis of their male genitalia and disjunct distribution. Named after Dr J. Gardner, Adelaide.

Stigmodera (Castiarina) junturneri sp. nov.
FIGS 1Y, 2N

Holotype: ♂, Hill End, N.S.W., 17.i.1984, J. R. Turner, SAMA 1 21197.

Allotype: ♀, Hill End, N.S.W., 9.xii.1983, J. R. Turner, SAMA 1 21198.

Colour: Head, antennae, pronotum and scutellum coppery with dark blue reflections. Elytra pale yellow with following black markings with dark blue and purple reflections: narrow basal margin; pre-medial fascia represented by elongate mark on each side reaching margin but not suture and by elongate mark along suture, in allotype marks confluent forming fascia angled anteriorly from suture, reaching margin; broad post-medial fascia reaching margin, projecting anteriorly and posteriorly along suture and anteriorly in centre on each side from anterior margin; mark covering apex; marks may or may not be confluent along suture. Ventral surface: sternum and legs coppery-red with dark blue reflections; abdomen testaceous. Hairs silver.

Shape and sculpture: Head closely punctured, median sulcus, medium length muzzle. Antennae, segments: 1-3, obconic; 4-11, toothed. Pronotum closely punctured, basal fovea extending to centre as glabrous line, basal notches on each side more lateral than medial; apical margin projecting medially, basal margin barely bisinuate; laterally angled outwards from base, rounded and slightly bulbous posteromedially, tapered to apex. Scutellum scutiform, glabrous, flat. Each elytron punctate-striate, intervals convex, punctured, more so laterally than medially; laterally angled out from base, rounded at humeral callus, concave, rounded posteriorly and narrowed to bispinose apex; sharp marginal spine, minute sutural spine, margin rounded and indented between, apices diverging, apical margin subserrate. Ventral surface with shallow punctures, edges of abdominal segments glabrous, moderately hairy, hairs moderately long. S₇: truncate in male; rounded and slightly pointed in female.

Size: Male, 16.7 × 6.6 mm (1). Female, 17.6 × 6.8 mm (1).

Male genitalia: (Fig. 1Y). Parameres widened basally, rounded and narrowed apically. Median lobe with sharp point, sides rounded away until they are horizontal, then dropping away vertically. Apophysis of basal piece short, medium width.

Remarks: Member of *S. fulviventris* Macleay species group. Aedeagus not as heavily chitinised as other members of *S. fulviventris* Macleay species group (Barker 1986, Figs 2J, 2K, 2L). Closest to

S. athertonensis, larger species. Distinguished from other members by coppery-red colours of head, thorax and legs. Named after Mr J. R. Turner, Hazelbrook.

Stigmodera (Castiarina) kanagara sp. nov.
FIGS 1Z, 2R

Holotype: ♂, Kanagara Walls, N.S.W., 20.xii.1982, J. R. Turner, SAMA 1 21199.

Paratypes: 2 ♂♂, Hill End, N.S.W., 14/19.i.1984, J. R. Turner, JTNA.

Colour: Head, antennae, pronotum and scutellum green with gold reflections. Elytra orange with following green or blue-green markings: narrow basal margin; pre-medial fascia represented by angled vitta over each humeral callus and elongate mark along suture; post-medial fascia reaching margin, extending anteriorly and posteriorly along suture or represented by medial mark on each side, diamond-shaped mark on suture; pre-apical mark on each side angled anteriorly and meeting at suture; mark covering apex and spines or absent in some specimens, marks may or may not be confluent along suture. Ventral surface: sternum and all or part of 1st abdominal segment green; at least last four visible abdominal segments testaceous. Legs green with gold reflections. Hairs silver.

Shape and sculpture: Head closely punctured, median sulcus, short muzzle. Antennae, segments: 1-3, obconic; 4-11, toothed. Pronotum closely punctured, basal fovea extending to centre as glabrous line, basal notches on each side more lateral than medial; apical margin projecting medially, basal margin bisinuate; laterally parallel-sided at base, angled outwards, rounded to widest posterobasally, rounded and narrowed to apex, lateral margins compressed for more than half basal length. Scutellum scutiform, elongate, glabrous, flat. Each elytron punctate-striate, intervals convex and wrinkled; laterally angled out from base, rounded at humeral callus, concave, rounded posteriorly and narrowed to bispinose apex; small marginal spine slightly angled inwards, small sutural spine, margin rounded and indented between, apices diverging. Ventral surface with shallow punctures, edges of abdominal segments glabrous, moderately hairy, hairs medium length. S₇: truncate in males.

Size: Males, 12.5 × 4.7 mm (3).

Male genitalia: (Fig. 1Z). Parameres parallel-sided basally, rounded outwards posteromedially, rounded then parallel-sided; rounded off apically. Median lobe pointed, sides obtusely angled away. Apophysis of basal piece medium width.

Remarks: Member of *S. straminea* Macleay species group (Barker 1986, Fig. 2N). Elongate body, flattened pronotum and angle of marginal spine distinguish it from other group members. Named after type locality, an aboriginal place name.

Errata: Barker, S. (1986) *Trans. R. Soc. S. Aust.*, 110(1), 1-36, 30 May, 1986.

p. 2 insert [g] *S. cupricollis* Saunders,

p. 9 paratypes of *S. rufa* sp. nov. 2 ♂♂, 3 ♀♀, Meekatharra, W.A., 5.viii.1972, not Mary Springs, W.A., 8.ix.1970.

p. 20 paratypes of *S. blackdownensis*, 3 ♂♂, 1 ♀, Blackdown Tableland, 23.ix.1973, E. E. Adams, ANIC, AWHQ not EAQA, AWHQ.

p. 24 *Allotype* ♀, WAMA not SAMA I 21172.

p. 33 insert *pseuderythroptera* Barker 1983, *Trans. R. Soc. S. Aust.*, 107, 162 Q.

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